

**RESOLUTION NO. 2010-28**

**A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AUTHORIZING THE FURTHER PROCUREMENT OF ENGINEERING SERVICES FOR THE VILLAGE OF KEY BISCAYNE, FROM THE FIRM OF COASTAL SYSTEMS INTERNATIONAL, INC.; PROVIDING FOR APPROVAL OF PROPOSAL CONCERNING CONSULTANT SERVICES RELATIVE TO BEACH RENOURISHMENT MAINTENANCE PROJECT; PROVIDING FOR IMPLEMENTATION; PROVIDING FOR EFFECTIVE DATE.**

**WHEREAS**, pursuant to a contractual agreement previously entered into between the Village of Key Biscayne and Coastal Systems International, Inc. (the “Engineer”), the Engineer has been retained by the Village in connection with services needed for the Village of Key Biscayne Beach Renourishment Projects; and

**WHEREAS**, the Engineer, pursuant to its continuing contract, has proposed to perform initial consulting services relative to the proposed Village Beach Renourishment Maintenance Project (the “Project”), which Project includes the restoration of the beach using the design template created by Engineer and authorized by the Village in 2000 for beach compatible sand placement between R-101 and R-108 and using fill material obtained from one or more of the approved offshore borrow areas; and

**WHEREAS**, the Village Council finds that it is in the best interest of the Village to utilize the Engineer for the purpose of the Project and reporting thereon, as described in the attached proposal.

**NOW, THEREFORE, IT IS HEREBY RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AS FOLLOWS:**

**Section 1. Recitals Adopted.** That each of the recitals stated above is hereby adopted and confirmed.


**Section 2. Work Authorized.** That pursuant to the existing continuing contract between the Engineer and the Village, the consulting services in furthering the Project and reporting thereon, as described in the proposal attached hereto, are hereby approved.

**Section 3. Proposal Approved.** That the Village Manager is hereby authorized to execute the proposal in substantially the form attached hereto for the engineering work authorized hereunder between the Village and the Engineer, once approved by the Village Attorney as to form and legal sufficiency.

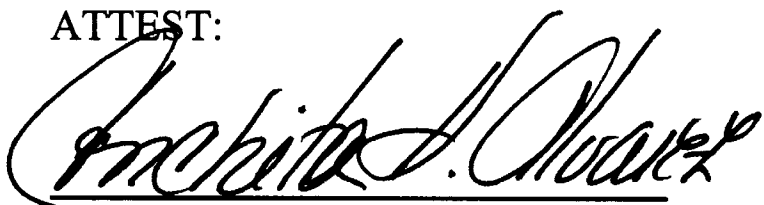
**Section 4. Implementation.** That the Village Manager is hereby authorized to take any necessary action to implement the purposes of this Resolution and the attached proposal.

**Section 5. Effective Date.** That this Resolution shall be effective immediately upon adoption hereof.


PASSED AND ADOPTED this 22nd day of June, 2010.

  
MAYOR ROBERT L. VERNON

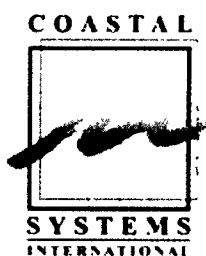
ATTEST:

  
CONCHITA H. ALVAREZ, MMC, VILLAGE CLERK

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

  
VILLAGE ATTORNEY





COASTAL SYSTEMS INTERNATIONAL, INC.  
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Tel: 305-661-3655 • Fax: 305-661-1914  
www.coastalsystemsint.com

135040.02-A2-revised

May 19, 2010

Mr. Armando Nunez  
Public Works Director  
**VILLAGE OF KEY BISCAYNE**  
88 West McIntyre Street  
Key Biscayne, Florida 33149

**RE: CONSULTING SERVICES RELATIVE TO THE PROPOSED VILLAGE OF KEY BISCAYNE BEACH  
RENOURISHMENT PROJECT MAINTENANCE EVENT AUTHORIZATION, VILLAGE OF KEY  
BISCAYNE, MIAMI-DADE COUNTY, FLORIDA**

Dear Mr. Nunez:

This is to submit an addendum scope of work for consulting services relative to the proposed Village of Key Biscayne Beach Renourishment Maintenance Event Project (Project). The Project includes restoration of the beach using the design template that was authorized in 2000 for beach compatible sand placement between Florida Department of Environmental Protection (DEP) Reference Monument R-101 and R-108, using fill material obtained from the approved offshore borrow areas.

Coastal Systems completed the initial environmental permit processing based on the scope of work authorized by the Village on November 3, 2010 for \$55,900. A memorandum was provided to the Village dated May 11, 2010 summarizing the status of the permit processing through the three (3) agencies that have jurisdiction for the Project. Based on the permit processing correspondence received to date, the agencies require current seagrass surveys, updated permit sketches, contingency mitigation plan, pipeline monitoring plan, storm response plan, coordination with the US Coast Guard, among other information to complete their review of the Project. Surveys of the seagrass and hardbottom resources within the vicinity of the Project are required, as well as updated drawings that depict all biological resources with respect to work spaces (e.g. anchoring area, pipeline corridors, staging areas, vessel access corridors, etc.) to be used for this Project. These surveys need to be conducted during the federal seagrass growing season, which is May 1 to August 31. If the surveys are not completed this summer, the permit processing and subsequent construction could be delayed one year.

Coastal Systems has also prepared a comprehensive scope of services anticipated to be required to complete the environmental permitting process for the Project. These services include the preparation and processing of Requests for Additional Information (RAI's), funding coordination, and coastal engineering.

The following work tasks numbered sequentially from the previous agreement will be provided by Coastal Systems International, Inc. (Coastal Systems) for the Village of Key Biscayne (Village).

**PART 6 – SEAGRASS BOUNDARY SURVEYS**

The permit sketches must include a recent map of the seagrass and hardbottom areas, which shows the construction access corridors through and around these resources, to which the dredging Contractor shall confine operations. The drawings must also delineate areas where anchoring, spudding down, or dropping of any type of marine/dredging equipment will be prohibited, as well as delineate all pipeline corridors and buffer zones. Exhibit A (attached) illustrates the general location of the seagrass survey areas related to: 1) the nearshore beach fill equilibrium toe of fill, 2) the dredge pipeline corridor, and 3) the borrow areas.

Seagrass boundary surveys must be completed to refine the Project design with the intention of avoiding seagrass impacts to the greatest practical extent. This mapping will be conducted during the seagrass growing season (currently, the federal range is May 1 through August 31). This scope does not include quantitative assessments of seagrass habitat for any mitigation planning that may be required by the regulatory agencies, either if minor impacts are unavoidable or on a contingency basis.

- a. **Nearshore Seagrass Survey:** Coastal Systems will conduct a nearshore seagrass boundary survey adjacent to and extending approximately 500 feet updrift and 1,000 feet downdrift of the Beach Maintenance Project. Biologists will snorkel the landward limit of the seagrass beds and any other communities of ecological significance. Land-based topographic or DGPS methods will be utilized for horizontal positioning as field conditions warrant. Dominant habitats and organisms will be identified and field notes with underwater photographs will be obtained to document conditions. One (1) day of fieldwork with a three (3) person crew is budgeted for this task.
- b. **Pipeline Corridor Seagrass Survey:** Coastal Systems will map the proposed pipeline corridor area utilized for the 2002 Project to determine which segments of the pipeline may be anchored to the bottom in areas devoid of seagrass resources and which segments must be designed as floating pipeline to avoid seagrass impacts. This includes reconnaissance in the immediate area of the previously proposed corridor to determine if a route with less potential for seagrass impacts can be identified. Dominant habitats and organisms will be identified and field notes with underwater photographs will be obtained to document conditions. Two (2) days of fieldwork with a four (4) person crew are budgeted for this task. The biologist will work from a survey vessel to provide horizontal positioning utilizing DGPS methods. All diving operations will be conducted in accordance with OSHA, subpart T, commercial diving regulations.
- c. **Offshore Borrow Area Seagrass Survey:** Coastal Systems will map the location of the near edge of seagrass/hardbottom within the anticipated buffer zone around the previously approved offshore borrow areas to confirm borrow area dredge boundaries using biologists towing a DGPS antenna to provide continuous location data. Dominant habitats and organisms will be identified and field notes with underwater photographs will be obtained to document conditions. Two (2) days of fieldwork with a four (4) person crew is scheduled for this task. The biologist will work from a survey vessel to provide horizontal positioning utilizing DGPS methods. All diving

operations will be conducted in accordance with OSHA, subpart T, commercial diving regulations.

- d. Seagrass Base Map and Biological Report:** The seagrass survey data collected in the field will be reduced to the horizontal coordinate system established for this Project and plotted for incorporation into the permit sketches and construction plans. A Field Observation Report will be issued for reference relative to the environmental permitting process, generally describing and providing photos of the observed seagrass habitats in the context of the Project.

*Deliverables: Biological Field Report and Seagrass Base Map*

#### **PART 7 - DEP 2011 FUNDING APPLICATION**

Coastal Systems will prepare a joint DEP funding application for the proposed Project. The Village will provide information regarding available municipal beach management support staff and a resolution noting support of the Project, willingness to serve as local sponsor, ability to provide the local cost share and identification of a dedicated funding source. The Village will provide Coastal Systems with available data regarding public beach access and parking spaces, location of public restrooms in proximity to the beach, location of public lodging establishments and land use information. Coastal Systems will compile the necessary data and submit the scope of work, schedule, contract copies and other required exhibits to the DEP Beach Management Assistance Funding Program in support of this funding request.

#### **PART 8 – EQUILIBRIUM TOE OF FILL ANALYSIS (IF REQUIRED)**

The proximity of the proposed beach nourishment to the adjacent nearshore seagrass beds will trigger an increased level of scrutiny by the permitting agencies. The agencies will likely require a coastal engineering analysis to evaluate the equilibrium toe of fill from the proposed beach fill placement. After the beach nourishment is constructed, the beach fill will reach an equilibrium profile based on the wave climate and coastal processes including sediment transport along the Project shoreline. The seaward extent of the “equilibrated” beach fill must be evaluated to avoid impacts to the nearshore seagrass.

- a. Equilibrium Toe of Fill Analysis:** Coastal Systems will conduct a volumetric and Equilibrium Toe of Fill (ETOF) analysis based on available survey and monitoring data provided by the County. In addition, the updated nearshore seagrass survey information obtained under Part 6(a) services will be incorporated into the analysis. The desktop analysis will be conducted through the profile translation methodology utilizing historical profiles. The information will be used to estimate the seaward extent of the proposed Project following profile equilibration. Based on the results of the ETOF analysis, Coastal Systems may have to modify the current beach profile fill template to avoid impacts to the adjacent seagrass resources. Modified permits sketches with updated beach fill volumes will be prepared. Numerical modeling to evaluate the ETOF may be required by the DEP, and will be provided under a separate scope of services if more detailed than a standard modeling effort using existing data under a separate scope of services.

- b. Coastal Engineering Report:** A coastal engineering report will be prepared to document and summarize the ETOF analysis completed. The report will include a review of the data utilized in the analysis, the methodology and the results. Modified design beach fill templates will be incorporated, as required. The report will be suitable for processing through the environmental permitting agencies.

## **PART 9 – PERMIT PROCESSING**

The level of effort required for the Project permit processing phase will be affected by many external variables such as general concerns regarding beach renourishment, public comments/objections, commenting agency Requests for Additional Information (RAI) and Endangered Species Act (ESA) consultation requirements. The level of effort required will also be affected by agency staff workload and the degree to which Coastal Systems may assist in drafting documents for agency staff and coordinate meetings to expedite the permitting process. Several key environmental issues will need to be resolved during the permit evaluation process. These include, but are not limited to, potential direct and indirect impacts to nearshore seagrasses, consultation under the Essential Fish Habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act, and consultation on endangered species including sea turtles, corals, small tooth sawfish, and manatees. This scope of services assumes that no direct or indirect impacts to nearshore seagrasses or other environmental resources will be identified which would result in a requirement for negotiation with the regulatory agencies regarding mitigation or the design of appropriate mitigation for seagrass or other environmental impacts. The fee estimate provided also assumes that the agencies will consider floating the pipeline over emergent seagrass resources between the offshore borrow areas and the beach placement areas as sufficient avoidance and minimization efforts.

Any required data collection not specifically scoped herein will be the subject of an addendum to this contract, upon provision of sufficient criteria by the environmental regulatory agencies during the permit process to precisely define the scope. Coastal Systems will maintain clear communication with the Village regarding permitting progress and will address additional services and budget as necessary. Meetings required with the Village and/or agency staff will be provided under Part 4 of our existing contract.

- a. DEP Notice to Proceed Processing:** Coastal Systems will confer with DEP staff to further advise them of the details of the Project and to address staff comments or Requests for Additional Information (RAIs). Coastal Systems will maintain telephone contact with agency staff to expedite their review and processing of the permit application. Coastal Systems will confer with the Village as to questions, revisions, or additional items that may be required by agency staff. Coastal Systems will prepare and coordinate submittal of responses to agency RAIs. This scope of services assumes the DEP will issue 2 RAIs requiring comprehensive responses by Coastal Systems. Coastal Systems will represent the proposed Project to assist the Village in securing a Notice to Proceed.
- b. COE Permit Processing:** Coastal Systems will confer with COE staff to further advise them of the details of the Project and to address staff comments or RAIs. Coastal Systems will maintain telephone contact with agency staff to expedite their review and processing of the permit application. Coastal Systems will confer with the Village as to questions, revisions, or additional

items that may be required by agency staff. Coastal Systems will prepare and coordinate submittal of responses to agency RAI's. This scope of services assumes the COE will issue 2 RAI's, which will require comprehensive responses by Coastal Systems. Coastal Systems will represent the proposed Project to assist the Village in securing a COE permit. Coastal Systems may prepare agency documentation on behalf of the COE to expedite COE processing time. This scope is based on preparation of ESA consultation documents to support formal consultation on nesting sea turtles and informal consultation on all other federally listed species, including preparation of a biological evaluation for corals, swimming sea turtles, and other listed marine species.

- c. **DERM Permit Processing:** Coastal Systems will confer with DERM staff to further advise them of the details of the Project and to address staff comments and Completeness Summaries. Coastal Systems will maintain telephone contact with agency staff to expedite their review and processing of the permit application. Coastal Systems will confer with the Village as to questions, revisions, or additional items that may be required by agency staff. Coastal Systems will prepare and coordinate submittal of responses to agency Completeness Summaries. This scope of services assumes the DERM will issue 2 Completeness Summaries, which will require comprehensive responses by Coastal Systems. Coastal Systems will represent the proposed Project to assist the Village in securing a Class I Permit. This scope of services assumes that the Project will be considered by DERM to meet the criteria set forth in Section 24-48.3(2)(f), Miami-Dade County Code, and will not require EQCB approval. Meetings with the Village, Project attorney, regulatory agency staff, and public hearings, including the Board of County Commissioners (BCC) hearing required for approval, as the Project will be processed as a "standard form" application, will be provided on an hourly basis under Part 4 of our existing contract. This scope assumes that DERM staff will support the proposed Project in their Recommendation Summary to the BCC and that the Village will provide necessary support from their environmental attorney relative to preparation for and attendance at the BCC hearing. The Village will also provide Structural and Zoning approvals on the construction drawings, as required by DERM for permit issuance.

## **PART 10 - CONSTRUCTION PLANS AND SPECIFICATIONS**

The DEP will require construction plans and technical specifications to be submitted as part of the permitting process. The documents will be prepared in a format suitable for processing through the agencies and to be incorporated into construction bid documents to be compiled by Coastal Systems or the Village under a separate scope of services.

- a. **Construction Plans:** Coastal Systems will prepare construction plans for the Project, consistent with design authorized by the environmental agency permits. The construction plans will include the following sheets:
- Cover Sheet
  - General Notes
  - Survey Layout and Control
  - Beach Fill Plan Sheets
  - Beach Fill Sections

- Beach Fill Placement Turbidity Control Plan and Details
- Pipeline Corridor and float/submerged pipeline plans and details
- Borrow Area Plan
- Borrow Area Geotechnical Information
- Borrow Area Sections
- Borrow Area Turbidity Control Plan and Details
- Dune Vegetation Plans (if required)

Plans will be prepared in CAD format in accordance with industry standards on 24" X 36" sheets.

**b. Technical Specifications:** Coastal Systems will prepare technical specifications for the construction Project in general accordance with the Construction Specifications Institute (CSI) format. Anticipated specification sections are CSI Division 2-16 as follows:

- Environmental Protection
- Turbidity and Disposal Monitoring
- Vibration Monitoring for Existing Structures
- Dredging
- Beach Fill

After completion of Parts 6 – 10 services, Coastal Systems will provide a proposal for construction bidding assistance, construction administration, and Project physical/monitoring services.

#### **GENERAL**

This fee proposal is valid to be executed for 60 days. Coastal Systems is available to discuss and refine the scope of services as necessary. Additional costs may be incurred due to circumstances beyond our control, including but not limited to, changing or unknown site conditions, design modifications, Village or agency staff delays, agency requests for additional information, public comments or objections, rule changes and litigation or other legal actions. Additional data collection, permit processing, construction drawings, bid process assistance and construction administration services, including permit compliance administration services will be provided under a separate scope once they are defined.

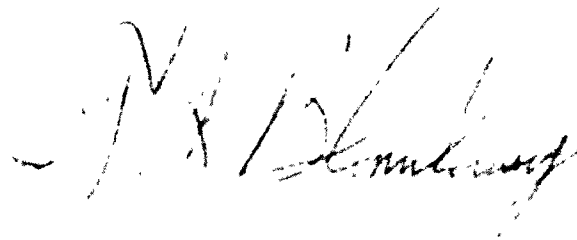
Fees for lump sum tasks will be invoiced each month on a percent complete basis in accordance with the attached Table 1. Equipment rental and expenses for Part 6 services are estimated at \$5,250; authorization of any unanticipated additional budget that may be required for equipment rental, airfare and other Project-related purposes will be requested of the Village, as appropriate.



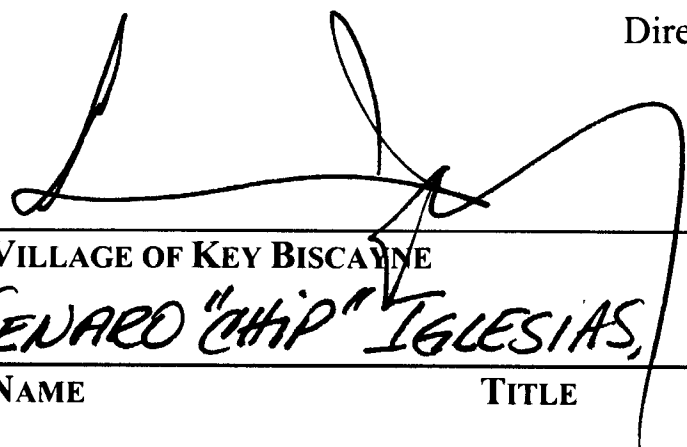
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Mr. Armando Nunez  
May 19, 2010  
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These services will be provided as an addendum to Coastal Systems' agreement dated August 1, 2006. Please return an executed copy of this addendum or notice to proceed, which will serve as our Authorization to Proceed. We look forward to continuing to work with the Village through the implementation of this beach renourishment project. Should you have any questions or require additional information, please do not hesitate to contact Penny Cutt at (561) 478-1004 x311 or [pcutt@coastalsystemsint.com](mailto:pcutt@coastalsystemsint.com) or me at 305-669-8650 or [tblankenship@coastalsystemsint.com](mailto:tblankenship@coastalsystemsint.com).

Sincerely,  
COASTAL SYSTEMS INTERNATIONAL, INC.



Timothy K. Blankenship, P.E.  
Director

SIGNED:  DATE: 6/29/2010  
VILLAGE OF KEY BISCAIINE  
PRINT: GENARO "CHIP" IGLESIAS VILLAGE MANAGER  
NAME TITLE

TKB:plc

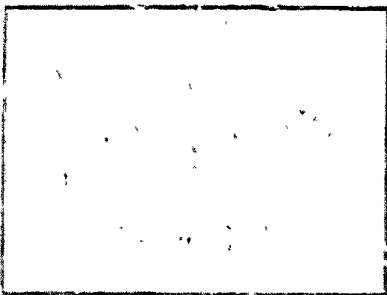
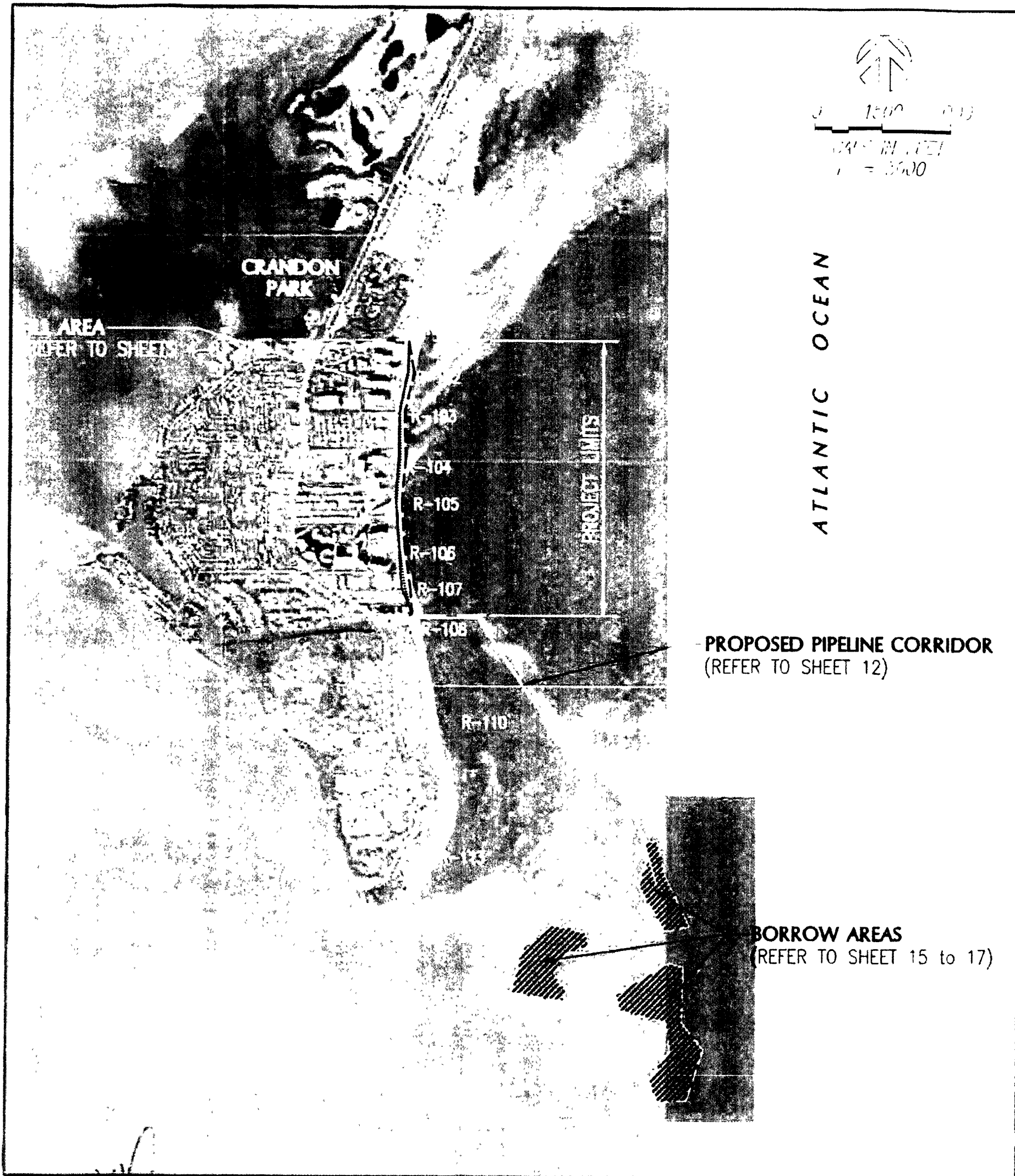
Enclosures

**TABLE 1**  
**SUMMARY OF FEES FOR BEACH RENOURISHMENT PROJECT**  
**MAINTENANCE EVENT AUTHORIZATION**  
**VILLAGE OF KEY BISCAYNE, FLORIDA**

DESCRIPTION	TYPE	TOTAL COST
<b>Part 6 - Seagrass Boundary Surveys</b>		
a) Nearshore Seagrass Survey	Lump Sum	\$4,570
b) Pipeline Corridor Seagrass Survey	Lump Sum	\$10,680
c) Offshore Borrow Area Seagrass Survey	Lump Sum	\$10,310
d) Seagrass Base Map and Biological Report	Lump Sum	\$8,035
<b>Subtotal:</b>		<b>\$33,595</b>
<b>Part 7 - DEP 2011 Funding Application</b>	Hourly, Estimated	<b>\$8,485</b>
<b>Subtotal:</b>		<b>\$8,485</b>
<b>Part 8 - Equilibrium Toe of Fill Analysis</b>		
a) Equilibrium Toe of Fill Analysis	Lump Sum	\$12,760
b) Coastal Engineering Report	Lump Sum	\$7,780
<b>Subtotal:</b>		<b>\$20,540</b>
<b>Part 9 - Permit Processing</b>		
a) DEP Notice to Proceed Processing	Hourly, Estimated	\$37,175
b) COE Permit Processing	Hourly, Estimated	\$37,175
c) DERM Permit Processing	Hourly, Estimated	\$37,175
d) Meetings/Coordination	Hourly, Estimated	\$16,450
<b>Subtotal:</b>		<b>\$127,975</b>
<b>Part 10 - Construction Plans and Specifications</b>		
a) Construction Plans	Lump Sum	\$21,380
b) Technical Specifications	Lump Sum	\$5,890
<b>Subtotal:</b>		<b>\$27,270</b>
<b>Estimated Equipment Rental Expense:</b>		<b>\$5,250</b>
<b>Estimated Reimbursable Expenses:</b>		<b>\$3,131</b>
<b>TOTAL:</b>		<b>\$226,246</b>

Notes: Estimated costs are based on Coastal Systems' experience with similar projects. Coastal Systems will make a sincere effort to maintain costs within this estimate but will advise the Village if a change in scope is required.





**VILLAGE OF KEY BISCAYNE**  
88 WEST MCINTYRE STREET  
KEY BISCAYNE, FLORIDA 33149



**COASTAL SYSTEMS INTERNATIONAL, INC.**  
464 South Dixie Highway, Coral Gables, Florida 33146  
Tel: 305/441-1111 Fax: 305/441-1112  
STATE OF FLORIDA 147024  
Coastal, Environmental, Civil Engineering and Management

VILLAGE OF KEY BISCAYNE  
BEACH RENOURISHMENT PROJECT

**VICINITY MAP**

VC 135040.02	DATE 12/22/09
VC	SHEET 2 OF 22